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ABSTRACT

Noting that there are signs of a relaxation in the long tension caused by the methodological "cold war" between quantitative and qualitative research proponents, this paper points to communications research as one area where the trend is developing. Placing communications studies in the framework of current public attitudes toward research and the evolution of academic research methods, the paper finds evidence of an eclectic consensus on research growing out of external needs in society and internal needs for communications theory. The paper closely examines the rediscovery of communications by sociologists using the critical approaches of participant/observation, and explores some unorthodox research tools such as use of media technology as a method, archeology as a part of the historical tradition, and the use of science fiction as a predictive technique for communications. (Author/FL)

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THE CO-EXISTENCE OF QUALITATIVE STUDIES AND SOCIAL SCIENCE: TOWARD PARITY AND DETENTE ?

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by

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Presented to the Qualitative Studies Division of the Association for Education in Journalism and Mass Communications, Annual Convention, Oregon State University, Corvallis, Oregon, August 1983.

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Abstract

THE CO-EXISTENCE OF QUALITATIVE STUDIES AND SOCIAL SCIENCE: TOWARD PARITY AND DETENTE ?

by

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This analytical study suggests that communications research is taking a renewed look at qualitative and other descriptive approaches such as history, meta-research, participant-observation, criticism, and interdisciplinary contexts such as sociology, political science, and religious and philosophical metaphor.

The paper places studies of communication in the framework of current public attitudes toward research and the evolution of academic research methods. It finds signs of an eclectic consensus on research growing out of external needs in society and internal needs for communications theory.

This study pays special attention to re-discovery of communications by sociologists using the critical approaches of participant/observation. It also adds some unorthodox tools such as use of the media technology as a method, archeology as a part of the historical tradition, and the use of science-fiction as a future predictive technique for communications. The over-all tone is one of blending quantitative and qualitative approaches rather than encouraging their continued rivalry.

Presented to the Qualitative Studies Division of the Association for Education in Journalism and Mass Communications, Annual Convention, Oregon State University, Corvallis, Oregon, August 1983.

THE CO-EXISTENCE OF QUALITATIVE STUDIES AND SOCIAL SCIENCE: TOWARD PARITY AND DETENTE ?

There are signs of a relaxation in the long tension caused by the methodological "Cold War" between quantitative and qualitative research techniques. A case for peaceful co-existence, parity and detente appears today in the academy in contrast to the mood of confrontation between the social science and humanistic approaches in the past years. Communications research is one area where the new consensus may be developing.

Reasons for any spirit of compromise on acceptable research methods may be due to a number of conditions: negative public attitudes toward science and decline in support for research; the failure of social science prescriptions to solve social problems; and the internal pressures for adjustments in communications research circles as well as in related fields, which had also omitted the human equation in statistical formulations about science and society.

In research on mass media, there has been a renewed look at traditional methods like history, participant-observation, and criti-

cism; and a renewal of communications research by interdisciplinary scholars, especially sociologists. Add to these the re-examination of media and reporting as a research tool, and the exploration of unorthodox approaches such as archeology, science fiction and futures and one finds a delectable and eclectic pursuit of inquiry about the nature of communications media and society. But first,a reflection:

The larger social and political climate in the U.S. might be noted as one observes the challenge to social science and the rise of more humanistically-oriented approaches. The logical positivism popular in the 1950s was weakened by the forces of frustrating wars and failures in the civil rights movement in the 1960s as the country's "best and brightest" could not resolve either foreign or domestic issues. The urban and environmental crises of the 1970s and early 1980s remained while "think tanks" and grants subsided, colleges became vocational, high school graduates could not read or write, the occult and pseudo-science thrived, creationists attacked scientific evidence, and the magic of technology from Sputnik to the moon landing did not prevent pollution, narcissism or the Guyana tragedy.

The public appeal of Sen. Proxmire's "Golden Fleece" Awards for meaningless research was bolstered by frequently irrelevant, unreadable, and poorly reported research findings, and such seeming cultural contradictions as federal reports on the danger of smoking and federal subsidies for tobacco; and common high blood pressure and traffic congestion,yet rare heart transplants and space trips. In part of the same time span, scholarship came under indictment by some for being an isolated, self-serving cult which fled to libraries and cried "research" like medieval thieves fled to churches and cried "sanctuary" and became "untouchable by law or society".[1]

Social science was denounced as sorcery which hid behind methodology, used jargon as a smokescreen, employed quantification as camouflage, evaded issues under the guise of objectivity, and corrupted the citadels of learning.[2] Those who bucked the scientific establishment with unorthodox theories often saw their careers, grants and reputations go up in smoke.[3] The polarity of C.P. Snow's "two cultures" of science and humanism seemed to be divided by the extremes of a "mindless antiscientism" and "a blind faith in science".[4]

In the arena of communications research and media practice, the biggest issue for more than a decade was whether communication was a scholarly discipline which should follow the model of social science (the Chi Squares) or media forms (Eye Shades).[5] The schism in journalism education almost destroyed the liaison with the profession, some of whom still said as recent as 1977 that communications research studies "do no good, have only an artificially incubated market and constitute nothing but make-work for frightened faculties which must publish or perish".[6]

Some inside academe have also cited the isolation of researchers and their distance from the media, since "we still lack a corresponding social responsibility model of the purposes of journalism research",[7] and much of the research is "gobbledygook" and "academic obscurity".[8] Also, in obtaining data, communication researchers (and "their brothers and sisters in the social sciences") have ignored many of the human and ethical issues of deception, informed consent, de-briefing, privacy and confidentiality.[9] Social scientists have also been called to task in regard to lies and the truth.[10]

Perhaps a deeper condemnation of social and communication science is that it employs tools and methods and the illusion of technique at[11]

the expense of creativity, serendipity, and the "eureka process" which can generate new ideas and discoveries.[12] Unfortunately social scientists are not trained in conceptual creativity. "Our literature on methods devotes hundreds of pages to the rules for testing concepts, few or none to the generation of them".[13] The failure to think creatively in journalism research is assailed by Maxwell McCombs, who says "Research is as much a creative enterprise as painting, sculpture, or editing a newspaper. We tend, however, to stereotype the scholar in terms of his tools. This is especially true of the behavioral scientist involved in journalism research."[14]

The preoccupation with method at the expense of subject matter has made method an end in itself rather than a means, and created a "social scientism" in which "people are more like automatons than human beings."[15] One might ask whether science is necessarily a method with the invariant steps of hypothesis, observation, testing and confirmation, or perhaps "a pompous exercise of professional vocabulary" used by "implicit gods" as the only way to valid knowledge.[16] A physicist suggests that "The so-called scientific method is merely a special case of the method of intelligence, and any apparently unique characteristics are to be explained by the nature of the subject matter rather than ascribed to the nature of the method itself."[17] An even more harsh indictment suggests that "The scientific paper is a fraud in the sense that it does give a totally misleading narrative of the processes of thought that go into the making of scientific discoveries."[18]

In this reflective context, there has emerged a new concern in mass communications research for alternatives to traditional social science methods. The mood is one of consensus rather than confrontation, and a desire for bridges rather than bombs. If not integration, to use

the racial metaphor, then at least equal; and if separate, it's a change, which some say is better than slavery to only one research method.

Emergence of a New Eclectic Consensus on Research

Mass communications and journalism research have been tied to the trade and craft training on campuses, which have been tied to the society through hiring by professional journalists. Journalism schools have not separated themselves as clearly as law from political science, dentistry from medicine, home ec from physical education, and even English from journalism. Leading university pace-setters have never fully accepted journalism. The Ivy League accepted a professional master's at Columbia and the Nieman Fellows at Harvard and the California schools have largely relegated it to the state teaching colleges.

The "roots" and Mother Lode of journalism are in the Midwest, at home more with the huge undergraduate populations and service-oriented, land grant colleges, where it got its start after 1900. At one time, journalism almost found a home with sociology as the University of Chicago around the turn of the century considered training journalists along with social workers, ministers and politicians. But by the time of Robert Hutchins in the 1930s, journalism was ranked in esteem with home economics, the football team and marching band. It remained for urban neighbor Northwestern to create the professional rather than the scholarly tradition in the field, and in neighboring Wisconsin to lead the way toward a social science direction.

It was Wisconsin alumni and that university which "turned the caravan into the social science road" rather than a literary or English pathway as they "sold the product to the university establishments".[20]

By World War I, it was clear that journalism on campus would not compete with English departments with a stylistic or critical approach, which might also anger state press associations and college presidents alike. Any normative, qualitative thrust would remain in the safe area of journalism history and other interdisciplinary ties would allow it to borrow from psychology's behavioral techniques. This would boost journalism's campus inferiority complex among scholars and with the profession seeking a potential tie to applied social science in the commercial market.

By the end of World War II, the first Ph.D. in mass communications had been granted at the University of Iowa, and by the 1950s, professionals were willing to accept more of the social sciences and liberal arts to balance trade courses. But it was at the graduate level that the Cold War set in between professional and research emphases when around 1964 the national journalism teachers in the Association for Education in Journalism nearly split up over arguments on quantitative social science theory and methodology as opposed to mere media vocational forms. The compromise which remains to this day is a loose confederation of divisions, with social and policy pressures creating a division of mass communications & society in 1966, a minorities division in 1969, and in 1975 a humanities (qualitative) studies division (QS).

QS was non-quantitative in approach, humanistic, wholistic, eclectic, and interdisciplinary. Its umbrella covered research alternatives ranging from literary, philosophical, and critical analysis to cultural, musical, aesthetics, and classical languages. It filled a void and got massive response from journalism teachers interested in linkages and liaison with other fields, less specialization of methods, and social concerns with media impact on human society and not just on commerce.

In a half dozen years, the qualitative movement had reached a kind of maturity as it had promoted "the use of inter-disciplinary research tools in order to re-associate human studies to the quality of human values, (and) to humanize research in an era of dehumanization."[21] However, it faced a lack of tradition within its own field, scattered syllabi and scholars without courses or followers, no standard texts, and muitiple purposes because of multiple methods. Its legitimacy was still doubted by some in the field who had reluctantly accepted the more established historical method (strong at Wisconsin), but which (like qualitative studies) was considered descriptive, impressionistic, and anecdotal. Also, by the 1980s, the largest over-all journalism enrollment growth was in the Sun Belt schools (Texas, Florida, Georgia), where graduate research programs still "hitch-hiked" on large undergraduate professional student bodies, and where the Midwest research model still dominated and was "exported" to other schools.

A major breakthrough for alternative research approaches came in 1981 in the first new research methods text in the field in 23 years. In it, qualitative scholars and their students "staked out a scholarly domain" and "entertained the hope throughout that social science can be freed from exploitative uses and enlisted instead in the cause of freedom and justice".[22] With an eye to respectability and "intellectual toughness", the scholars explained the "logic and aims" by "separating wheat from chaff" in qualitative studies.[23]

Qualitative approaches and methods involved naturalistic observation, study of the context of communications behavior, maximized comparisons, sensitized concepts revealing insight and meaning, and meaningful portraits rather than statistical formulations. The emphasis was on seminal ideas, integrating and introspective schemes, whole

macro systems outside the laboratory, sympathetic immersion in real life settings, and the search for underlying irregulaties rather than for abstract truth. The qualitative approach suggests that the physical science model may not be transferrable to the humanities, but it does not ignore statistical tools. It also argues that fact and values need not be so severely separated in studies (or in life) and that communications scholars study not so much how media affect people, but what they mean to people and how they interpret them.[24]

The qualitative approach had become "a research method in its own right"[25] and some said "a rejection of statistical techniques as the only way to meaningful results".[26] Some receptivity to the idea of alternate and supplementary techniques had already been alluded to in the standard communications research methods text used from 1958-1981.[27] In it, authors concerned with survey research, experimental methods and content analysis noted that "the quantitative-qualitative dimension has always seemed a false and misleading distinction";[28] that "sophisticated statistical techniques are poor substitutes for good design";[29] that there was "no such thing as the reliability of an instrument, and one can only select that method that seems most appropriate";[30] and that "Not every problem, however, must involve machines. Some can still be done more efficiently by three people with scratch pads."[31]

The notion of the qualitative inquiry of phenomenology is also being bridged to mass communications research,[32] and more research with a qualitative and humanistic focus has begun to appear.[33] Encouragement has come from within other segments of the communications field. In 1979, the new mass communication division of the International Communication Association expressed the futility and cynicism about building theory from experimental and survey research and became more receptive

to ethnology and naturalistic methods to balance "our discipline's preoccupation with traditional scientific methods of empirical investigation and the probabalistic models" as the only means of study. "This methodological privincialism has slowed progress toward a more realistic approach to the study of human behavior in relation to the instruments of mass communication--the integration and convergence of various precise methods of inquiry into the daily work of researchers who take common phenomena as substance for study."[34] In a similar way, the new intercultural communication division of the Southern Speech Communication Association has a more humanistic, problem-oriented concern in order to "rise above our own naive and simple provincialism and achieve a more worldly and sophisticated cosmopolitanism."[35]

Renewed public and campus interest in the humanities has helped broaden research inquiry as "we must think as well about the problems of man that cannot be quantified or even verified by scientific analysis."[36] Yale University President Angelo B. Giamatti stretches the umbrella of the communications context to say "The arts-music, theater, painting, architecture, film-each with its own sign system or 'language' and its own 'texts', are also very much a part of my view of language and the humanities."[37]

The blend of physical-quantitative and humanistic-qualitative approaches may be appearing. Northwestern University's medical school may require future physicians to be trained in the humanities as well as the social sciences,[38] and in the spirit of peaceful co-existence, a mathematician has observed:[39]

> Brilliant scholarship uses both quantitative and qualitative skills--each guiding the other. . . . . And the greatest thinkers in the social sciences. . . start with quantitative results and go on to address such qualitative issues as meaning, value and ethics. Quantitative social science without values can be sterile, qualitative social science without data, naive.Brilliant scholarship is a delicate blend from both.

The notion of a complementary blend of methods rather than a dichotomy of alternatives is one view because " 'quantitative methods' have been code words for survey research--as if only the survey could yield legitimate quantitative data". Such a "counter productive misrepresentation" involves the mistaken idea that "the researcher begins with 'soft' methods to develop ideas and then moves on in the 'hard' science methods of testing those ideas."[40] The separation of knowledge (from methods of obtaining it) faces both the practitioner and researcher in communications, but contact with other disciplines helps them to understand their own field.

Interdisciplinary Communication Research Methods

One of the best ways to understand one's own self or specialty is to look at it through the eyes of another person or discipline. In journalism and communications, borrowing has been common. Much in the quantitative "tool box" came from psychology, and if one looks at sister disciplines like history, sociology and political science, it is history that is the closest relative and the oldest research method and the continuing major alternative to social science methods.

It has been used to record media activity as well as the day-to-day technique of record-making by journalists writing history. Like reporting, journalism history has been largely descriptive with little criticism and even less theory, and it dominated research techniques before the arrival of social science approaches. The methods of the modern researcher and journalist have been those of the historian and "These methods are of course the general ones of scholarship, not the particular ones of statistical and mathematical work, or the laboratory and field techniques of testing and interviewing."[41]

Although such social science techniques are being implemented

in the teaching and practice of journalism,[42] the methods of historical research have remained largely qualitative. "Indeed, in one sense, qualitative studies can be seen not so much as innovation as restoration--an attempt to return to the imaginative method and the ambitious scope of history before that science was challenged, changed, and nearly submerged by positivism in the eighteenth and nineteenth centuries."[43]

Aside from the arguments as to whether social science is scholarly in the historical tradition, or whether history can be written quantitatively, the current atmosphere in communications research is one of a "new era of good feeling".[44] It has been described as "methodological pluralism" in which the mutually tolerant humanist and social scientist historians can use whatever methods are dictated by their goals and the nature of the data. The spirit of detente is expressed by the conclusion that "Genuine social science history is a modest affair, barely underway and scarcely able to displace humanistic history as a reliable guide to the past."[45]

While humanist historians have used generalization to explain unique events, the social scientist historian has tried to build general theories, discover laws and processes not bound by time, space or events. The debate on journalism as history and history as journalism is one of the methodological questions, as well as the need for a cultural and intellectual history of the field,[46] and "One must go so far as to challenge the fundamental assumption that there exists a field called journalism history."[47] The spirit of congeniality even suggests that good literary style can be used in writing communications history:[48]

> The exercise of some rigor in presentation of evidence. . . . . does not preclude the inclusion of anecdotal material where relevant. Rigorous, systematic history does not have to be dull history.

The discipline of history, like qualitative studies, scored two chapters for its first appearance in the standard research methods text in journalism and communications, although they both were toward the back of the "bus" behind behavioral science, statistics, data processing and measurement, content analysis, survey research and experiments. The interdisciplinary lens of fields like sociology and political science were not included, but "legal research" appeared as a methodology beyond its substantive nature. One might suggest that communications research methodologies may grow out of the self interest of the media: history to preserve the preferred record of media performance; social science techniques useful in the market of mass media; and legal concerns, a practical reportorial and institutional function in assuring a steady flow of saleable information. A chapter on research ethics deals more with the collection of data and the researcher's corduct, rather than the uses of research in the society in general. A final new chapter subject on presentation of research results dwells on internal problems: format, writing style, how to publish; rather than how to serve the external needs of the society affected by research.

Another omission in research techniques is how to use a library. Communications researchers using social science may be overly-impressed with the machinery of modern data processing and computers and the originality of such results, perhaps like working journalists have long evaded the secondary information collected in libraries (outside of their own morgues), and been more anxious to deal with primary sources. The need for communications research to systematically review the already collected results is a type of research method and a "legitimate and important scholarly activity", according to Everett M. Rogers, the

past president of the International Communication Association.

Rogers, a sociologist, notes that most reviews of the literature are "sterile, unintegrated, and rambling", and urges use of the meta-research techniques from psychology and education through synthesis, translation, decoding, and generalizations with the aid of statistics, sampling, content analysis and description. Such synthesis and research on research is "the intellectual cement that glues a research discipline together".[49] Such meta-analyses of past research and recorded data peovides a type of historical method and interdisciplinary linkage.

Sociologists Unite Participant-Observer, Critical Techniques

In the past few years sociologists and/or the sociological context have provided the glue for a wholistic view of communications research. Although probably not as familiar with journalistic practices as most journalism teachers, sociologists have appeared to be less obsessed with need to find a legitimate research method to make them accepted on campus, and they have been free of the vocational trade school and its related media establishment which cultivates the idea of non-involvement as professional objectivity. Due to this perhaps, sociologists have re-discovered communications and did it by reviving their own traditions of participant-observation and criticism.

In renewed study of society and communications, sociologists have also used newer social science methodologies (from sampling to sociobiology), and with their total view have, in a sense, put the baby back into the bath which communications scholars threw out with their restricted emphasis on narrow, limited psychological models of stimulus, organism and response, and thin media concerns like libel and obscenity. Although the long used media research text said "participant observer studies are clearly called for",[50] the method was not included in the

new text. Ironically, personal participation of journalists, from first person feature stories to undercover investigations, are standard research techniques and are included in updated training texts.[51]

As for critical techniques, they are also not in standardized communications research tool boxes, but sociologists, as critics, detectives and artists, have gone inside media institutions to detect and evaluate their performance. The narrow journalism research view has often neglected context and perspective--like studying plumbing rather than sanitation. Even Canadian English professor Marshall McLuhan had to remind them that the medium and message were close or the same. It took a sociological profile of American journalists in 1976[52] to cast light on the 1969 media criticisms by Vice President Spiro Agnew who said there was a liberal Eastern Establishment media--an allegation which angered the media and frightened many journalism professors. And it took the crises of the 1960s to make journalism educators aware of media and society through new substantive and policy courses populated by those from outside the discipline and based on anthologies of articles by scholars outside journalism departments, for the most part.

Contexts and connections to study media have been missing or are disappearing because of the media themselves, which unravel culture and history.[53] Sociologists, historians and working journalists have found a context for media. One is to use communication as both a theory and method of community. Another is to join media and geographical community, whether "media-made" Dixie or California,[55] or regional configurations[56] of post-industrial society as the communications age of mediacracy,[57] as community and communication are joined.

In numerous case studies, it has been the blend of quantitative survey research techniques and critical participant-observer approaches

by sociologists which have provided a massive alternative to the limited pathway of communications researchers. In some ways, sociologists are closer to the practice of journalism. The early "Chicago School" of sociology "was essentially journalistic" and American sociology "really grew out of the womb of journalism".[58] Community problems and studies were inseparable. Media and society were joined. Ex-journalist Robert Park urged students to do "seat of the pants" research via participation. The legacy of qualitative studies continued, while journalism teachers and practitioners tended to accept un-involved objectivity as a professional code and research tool for the mass market.

Sociologists wrestled with their own schisms over value-free objectivity and humanistic commitment as Alfred McClung Lee formed the Society for the Study of Social Problems and later the Association for Humanist Sociology. The latter group, created in 1975, the same year as journalism's Qualitative Studies, went beyond humanistic emphasis in teaching and research and urged "ethical responsibility of social scientists to contribute actively through their scholarly practice to improvements in the quality of human life, rather than merely to increase understanding of social reality as an end in itself."

Sociologist Lee criticizes the image-conscious sociologist tied to commercial specialists, foundation grants, and research contracts as a value-free scientist "wedded to esoteric terminology, to impressive quantification, to statistical manipulation, and to theories of human relations and social structure based on what is claimed to be 'hard data'". To humanists, Lee notes, "system, theory, and quantification are useful tools, but they are not a 'holy trinity' that should be permitted to dominate. . "[60] Qualitative Studies has some similar concerns.

Study, not action, has been more practiced by media sociologists

but the trend toward critical involvement has caused them to "get out of the car",[61] so to speak, and to use multiple quantitative and qualitative methods. Communications researchers frequently quote landmark articles like sociologist Warren Breed's study of social control in the newsroom,[62] and Morris Janowitz's long heralded work on the urban community press.[63] Others more recently use interpretive social science as an alternative to objective, positivist methods which may "bridge the seemingly unresolvable distance between social scientific and journalistic notions of objectivity".[64]

Over a 7-year period of 1973 to 1980, numerous sociological studies used a mixture of multiple methods to study the media, especially in the Northeast, where as recent as the mid-1960s, newsrooms were off limits to observing social scientists. Harvard Ph.D. candidate Paul Weaver had failed to get into the inside of the New York Times for his dissertation on the political and organizational nature of the New York press,[65] but a later Harvard Ph.D., Edward Jay Epstein, emerging popular journalist and political sociologist, gained access to the internal workings of TV networks and produced his 1973 News From Nowhere. Epstein attended staff meetings, traveled with camera crews, sat in on policy discussions and off-the-record conferences, and had full access to internal records. Interviews were only one part of his research.

Epstein defended such direct observation because he said historical research and content analyses do not reveal media distortions of events, whose coverage is beyond the means of academic researchers, and such events do not take place under controlled circumstances lending themselves to methodological analysis. Epstein's pioneer work (on how internal media organizational needs affect the external images of the

world) was inspired by journalist Walter Lippmann's observation a half-century before that "no American sociologist has ever written a book on newsgathering."

The organization and politics of newsmaking between Reporters and Officials was studied by 1971 Harvard Ph.D. Leon Sigal, who not only interviewed and studied memoirs of participants, but observed interactions in newsrooms of the Times and Washington Post. In an organizational study Behind The Front Page (1974) of the New York Times, Harvard management expert Chris Argyris was hired by the paper to study it through interviews and attendance at staff meetings, and also to intervene to solve internal problems.

Sociologist Bernard Roshco, former newsman, combined personal experience and academic research to study the institutional pressures that result in Newsmaking (1975). Gaye Tuchman, another sociologist and involved in the women's movement, employed interviews and participant observation in newsrooms over a 10-year period to write about Making News-A Study in the Construction of Reality(1977). Michael Schudson turned his Harvard doctoral dissertation in sociology into a book on Discovering the News (1978), showing how the ideal of objectivity grew out of the "social history" of the 19th century.

In 1979, sociologist Herb Gans continued his long career as a participant-observer of "journalistic communities" (and popular culture) in his Deciding What's News, which used both personal observation and qualitative and quantitative content analyses to detect values in news in network television and major news magazines. On a smaller, more local scale, Mark Fishman took notes for seven months as a novice reporter on a small California newspaper to observe how Manufacturing The News(1980) results from a symbiosis of bureaucratic needs and jour-

nalists' routines.

Todd Gitlin, sociologist, journalist, and heavily involved at one time in the Students for a Democratic Society(SDS), used his past experience, organization records and contacts, to help study performance of the New York Times and CBS News in The Whole World is Watching:Mass Media in the Making and Unmaking of the New Left(1980). Although he pointed out that quantitative methods are useful for media analysis "if they are harnessed to the qualitative approach", he preferred "the suppleness of the qualitative 'literary' approach to cultural artifacts."[66] His methodological argument continues:

> I wanted to 'tease out' those determining but hidden assumptions which in their unique ordering remain opaque to quantitative content analysis. At its best, qualitative analysis is more flexible than the quantitative kind;it aspires to a level of complexity. . .that remains true to the actual complexity and contradictoriness of media artifacts. . . . . . . .the 'literary' choice emphatically does not amount to a choice of the intuitive against the objective. Both quantitative and qualitative methodologies rely on preliminary interrogations of the material, interrogations which proceed, at least implicitly, from 'intuitive' assumptions about what matters in the content, what needs to be either analyzed or counted.

Next to sociological involvement joining media and society, political science research has linked media with power by revealing that the press is a political actor and is part of the power structure, which affects its nature and behavior. The closest examination of this has been at the Washington level showing the relationship of the press and presidents. Douglas Cater's 1965 book on the press as The Fourth Branch of Government helped shatter the myth of a separation of media from the political process, and journalists themselves are now more willing to write about it.

Journalists,combined with political scientists,also developed the notion of the press setting the public agenda, one of the most studied research topics in media research the past decade. Lippmann

originally posed the idea in 1922, and in 1958 Norton Long, political scientist at Northwestern University, wrote about it in the American Journal of Sociology. Later Bernard Cohen in his 1963 book on The Press and Foreign Policy discussed the notion and commented that "of the three most perceptive and insightful books dealing with the press and public . . .policy in the past fifty years, two were by practicing journalists." Communications researchers have followed the flowers of cross-fertilization across professional and interdisciplinary fields.

Other interdisciplinary contexts, metaphors and analogies have been used to interpret and explain media and as such might be considered a research frame if not a research method. The legal lens has been used by Jerome Barron, Ralph Nader and Nicholas Johnson to see communication as a problem in access to media. Philosophy helped John Merrill write Existential Journalism. Religion has been used to explain the rituals, symbols and communion of television, especially with sports in Michael Novak's notion that "television shapes the soul". Tony Schwartz speaks of Media:The Second God and Bruce Herschensohn complained of The Gods of Antenna.

From psychology comes the framework of media uses and gratifications and television as dreams, while the nacotic role of media is an older notion and Marie Winn called TV The Plug-In Drug. Chemists and physicists are probing the energy and matter of dissipative structures, including communication; and from medicine, the idea of preventive journalism has been examined,[68] and the public health model applied to the press and the public interest.[69] Economic interpretations of the media are legion, with critical essays from journalists like Les Brown's "TV:The Business Behind the Box", to scholarly by Max McCombs' "Mass Media in the Market-Place". Similar ranges are found for understanding media in critical

political perspectives: Robert Cirno's Don't Blame the People and Herbet Schiller's Mass Communications and American Empire toward the Left; and from the Right, Benjamin Stein's View From Sunset Boulevard and Joseph Keeley's The Left-Leaning Antenna.

Media Observation and Participation as Research Methods

Journalists,as well as scholars, can and have used both observation and participation to gather information as well as to reveal the nature of media in society. It is not unusual for media to report their techniques as news--from routine denials of press access to closed records and meetings or successful court suits by publishers opening them to reporters.[70] Media may reveal how a TV show is produced and sold, how reporters report reporters,[71] or how a Pulitzer Prize story was written.[72]

Reporters have not only been involved in first person feature stories, but have have used undercover infiltration to investigate mental hospitals, public schools, welfare agencies and nuclear plants. While Herbert Gans lived among Boston's West End slum dwellers to write his Urban Villagers, journalist Edgar Snow lived for 50 years among the Chinese to write with understanding of them in Life and The Saturday Evening Post. Participation helped gather information.

In some cases, such information reveals the communications process. Journalist George Plimpton has for years taken part in sports events in order to write about them. Gay Talese told of The Kingdom and The Power of the New York Times after 10 years working there, and a reporter for The Rolling Stone, Timothy Crouse told of "herd journalism" among The Boys on The Bus traveling with the 1972 presidential campaign. When CBS executive Fred Friendly lost his job, he wrote of internal television network operations in his "occupational memoir" called Due

To Circumstances Beyond Our Control. Washington Post reporter Sally Quinn detailed her television failure in We're Going To Make You a Star. Ron Nessen observed media as both a journalist and presidential press secretary and found It Sure Looks Different From The Inside. Such media observations involving participation are often considered un-sophisticated, un-scholarly and merely descriptive. However the account of how Woodward and Bernstein uncovered the Watergate scandal has been called a method of social science for the following reasons:[73]

> ". . . in investigative reporting, as in science, the more powerful control is not the research design, but the social control inherent in independent review, criticism and attempts at replication of the reported observations. . . . . . . .investigative reporting does have a discipline to it in that its results are gounded in evidence whose reliability is probed in a number of ways. The inference process is also limited by social controls. The method requires theory to guide investigation, and it can result in concepts or models that have significance beyond the unique events for which they were developed."

Other varieties of journalistic methods that might be analyzed could include: interpretative, critical, technical, behavioral, advocacy, precision, alternative, anticipatory, participatory, existential, multi-perspectival, trend, herd, pack, meta, para, checkbook, crescendo, ambush, jugular, race horse, stenographic, gonzo, reform, adversary, market, consumer, humanistic, developmental, preventive, positive,yellow, consumer, minority, saturation, in-depth, therapeutic, survival, and public affairs. The nature of the media also might be revealed in examination of types of journalism based on expertise (e.g. science, sports, business); geography (urban, suburban, national); audiences (Black, aged, gays); time (daily, weekly, hourly); and by media forms (newspaper, magazine, TV etc.).

The operation of media technology may also comprise a method. The camera and photograph can be a research tool for ethnography, history

and social science. The tape recorder has become a valuable tool for oral history.[74] Audio-visual recording devices have been adapted for studying behavior and social patterns. The nature of media has also been revealed by Hollywood films such as Front Page, Citizen Kane and Absence of Malice. These have been used to teach journalism students about media.[75] Television shows like Mary Tyler Moore and Lou Grant are media revealing media methods, and novels like The Great God Success and The Scandal Monger portray journalism, although "nowhere can one find the all-pervasive examination, the deliberate and capable reflection, and the careful analysis which other major institutions within our society have received."[76]

Perhaps significant media research methods and the nature of media may be found in the non-fiction novels and other "new journalism" in which the involved participation of the observer with the observed is blending fact and fiction and revealing a truth about and beyond objective journalism. This fusion of novelistic technique and factual reporting has been called significant for three reasons: it reflects changes in style and form for traditional journalism; it demonstrates changes in the relationship between writer and art in mass society; and it shows writers' choices for documentary forms rather than imagination.[77]

To study this aspect of media, one must "rely upon insights drawn from social history and the history of American journalism" rather than just employ a literary study. "The risks of adopting the speculations of social scientists, of historians, and of students of journalism for literary study is a necessary complexity, but a fruitful one. . ."[78] Some journalists see the new journalism methods of writers like Mailer, Capote and Wolfe as a threat to objective his-

tory and knowable reality through verified fact.[79] Others see the blend of fact and fiction as a new means to reveal new truths about both society and media.

Criticism and Critical Analysis as Research Methods

If scientific survey research is impersonal, objective, non-participative and untouched by human involvement, then participant-observer research is the most distinctly personalized, idiosyncratic and subjective approach. An extension of the continuum for methodological involvement might make criticism a tool of involved concern.

The media critic preaches in effect that the media practice what the media preach. The stated ideals of technical and social responsibility are measured against media performance and thereby reveal the nature of the media. The ideal critic is a "critic-historian, who is grounded in the modern theories and in research methodology", according to an observer. Such a critic can be scholarly and use explicit standards as those from the Hutchins Commission to evaluate press coverage of unrest, foreign affairs and the environment;[81] or he can be a popular journalist critical of The Powers That Be in David Halberstam's best-seller on "the rise of modern media and their effect on the way we perceive events."

Critical analysis of the press has been practiced many years by journalists like Upton Sinclair, George Seldes, A.J. Liebling and I.F. Stone. The need and feasibility of such research has been urged for years,[82] but journalism and communication researchers have been slow to respond in academic settings[83] perhaps beholden to supporting the media market rather than criticizing it. One critical look at critical analysis notes that "Outside some developments in sampling and measurement techniques, it is hard to find anything commercial research has con-

tributed to the fragments of communication theory or research methods."[84] Journalists are not trained to be critics of their own methods or even to report about the press in society. The pattern of criticism in print media is toward competitive arts or entertainment: books, television, sports, etc.; or toward competitive institutions like politics and government.

A common criticism of criticism of the media is that critics are unqualified, do not make their yardsticks explicit, or deal in absolute standards about which there is disagreement. The criticism of research on media is similar. "We can recognize that data without adequate theory is intellectually sterile, but we also must acknowledge that theory without data is merely polemic."[85] And as with participant-observation, scholars argue that it tends to be personal and subjective, novelistic, loose-ended, highly connotative and hard to compare, although (like first-hand, eye-witness accounts) it tends to be readable, relevant, rich in detail, original and often otherwise unobtainable.

Criticism has historically been directed toward exaggeration and sensationalism in the media, inaccuracy, omission of information and news, media conflicts of self interest, failure to recognize minority interests or opinions, imbalanced presentations, poor taste, political bias, preservation of outdated social and scientific theories, and failure to anticipate possible effect of the news upon the audience. In making such assessments, researchers and journalists have disagreed on notions of the public interest by which performance is measured; and also appropriate research methods to measure it.

Media criticism appears to thrive when society is in ferment and when social change is possible, as in the 1960s when there were press councils, journalism reviews, moves for more power by reporters in the

newsrooms, and the beginning of ombudsmen, op-ed pages and more letters to editors. The feedback and back-talk from frequently ignored minorities in society provided a kind of media criticism from the lay public. Events such as pickets and demonstrations and techniques ranging from use of bull-horns and posters to pamphlets and graffiti all created communication about issues which got on the public agenda, and at the same time offered an indirect criticism of media for omitting them. Journalists and scholars frequently responded to such frustrations, as did governmental commissions on riots, assassinations and other violence, and the net effect was a type of collective media criticism which cut across many disciplines and methods.

In this atmosphere, journalism and communication researchers took greater note of media and society. Content analysts were reminded that what was not reported might be even more significant. Sociologists came forth to note the inseparable nature of communication and community. Political scientists suggested that perhaps editorials had less influence than the news because of its agenda-setting power. Descriptive and imprecise impressions had provided a macro and telescopic viewpoint which probably enriched the alternatives to traditional social science research techniques.

Archeology as an Unorthodox Media Context

While much debate centers on the present and even its historical meaning, one might look at the dead past to observe decline, disaster, and death of community and media as an autopsy context to study the archeology of media and communications. The post-mortem on the human body and the autopsy of past community ruins and relics are possible communications research tools of metaphor and analogy. The ultimate

unobtrusive method with the least interaction between observer and observed may be buried in past remains, refuse and residue leaving traces beyond traditional historical records.[87]

Since history is frequently a record of success, survival and victory, the study of defeat, disaster and failure may perhaps tell us more about the vital social organs from the bottom upward. Life often hides reality, while truth is revealed in death, and qualitatively speaking, Shakespeare reminded us that evil lives on while goodness is buried with our bones. Whether media, cult or political figures, the body speaks differently from the biography; and the diary and the memorabilia may vary from official or media accounts.

Pompeii ashes and the Ice Age arrested and embalmed the total interaction of the past in frost and fire. Inscriptions on oracle bones are clues to the origin of Chinese civilization. Ghost town sites leave mainly newspaper clippings as a research tool to study historical experiments that failed to survive.[88] Media detectives, like Sherlock Holmes, shift the ruins and wreckage for information as the key to the jig-saw puzzle.

Mice, rather than men, die in most experiments. The autopsy of homicide or hoax, murder or myth, provides a revealing record after death, be it the crucifixion of Christ and the Shroud of Turin; the mysterious deaths of media stars or presidential assassinations: stab wounds, powder burns and ballistics paths, voice, foot and finger prints, blood stains, blood in alcohol and dental records.

Such physiological metaphor of life and death is used to explain the life cycles of magazines,[89] the rise and fall of periodicals and TV sit-coms, the anatomy of the press, the death of afternoon dailies, and even the end of communication and the death of community.[90] The birth

and growth of new media has been recorded as pediatric history.[91] The overload of excessive communications has been linked to stress, death and violence. Media have been seen as a narcotic, as a "plug-in drug", as addiction and intoxication for media "junkies", and television "withdrawal" experiments are being used to discover psychological effects and needs.

The impact of alcohol and drugs on journalistic performance and perception might be a research context. Journalists Franklin and Bacon had excessive uric acid (gout) and socio-biologists are encouraged by Hitler's microfilmed medical records showing drugs for diseases that might be related to his behavior. Opthamologists are now convinced through photographs of poet Emily Dickinson that she was a recluse because light hurt her exotropic eyes, although some had deduced from her poems that she was mentally ill.

Photography appears to be a prime tool for media archeology. Old photographs show architectural monuments, streets and other transport routes, social and demographic patterns of interest to historians, real estate firms, anthropologists, and students of family history. They reveal landscape, folklore, human relations, interior design, recreation and entertainment, land use, the pre-urban natural environment, and information fairs and expositions. They can be used to reconstruct historic sites destroyed by fire, flood and urban renewal, and in ghost town studies, they help detect non-verbal communication and subtle hints of community decline.

Photo-historians documented the demise of 19th century French towns with "architectural photography" as "fourth-dimensional art" with "a more powerful fixative than the architecture itself".[92] The "lost America" of architecture, government and politics has been traced via

photos, and more recently urban graffiti is captured on film before removal of both the messages and the walls. Even when news stories or books forget or ignore events, the photo as archeological and autopsy tool may be present. The Zapruder film of the Kennedy assassination showed relationships rather than one artifact and aided the "grassy knoll theory" on the number of gunmen. Cameras in concentration campus (as well as aerial reconnaissance) have revealed conditions of Jews and Japanese-Americans incarcerated.[93] Underwater photos of the imprisoned Titanic and Andrea Doria provide footnotes on already written history.

The accident can be a research methodology to provide focus for understanding communications, power and society. Media serve as research assistants in a social learning experience in which there is a chance to re-evaluate social systems. Such accidents can occur in a fragile, complex society as unanticipated, sudden, authentic, unplanned breakdown in regular social or natural order, which brings to light preconditions, actions and consequences all at once. Thresholds are reached, attention held, and previously shielded behaviors and routines are revealed.[94]

At the point of disaster, decline and breakdown, the study of potential demise and failure is a pre-archeological context to study communications and information in slow emergent crises,[95] as well as pre- and post-disaster roles for media.[96] One MIT course on "Failure of Human Systems" studies the failure of newspapers and magazines with the hope of graduating "modern-day Lincoln Steffenses to take institutions that are obviously not working and reform them." John Gall's Systemantics is a serio-comic book on how systems work and especially how they fail titanically!

Crises are plentiful for both reporting and the study of communi-

cations. The coming Dark Ages and collapse of media systems are forecast, disaster films show it happening, science fiction predicts paralysis. There are newspaper strikes, telephone outages and power blackouts for studying communications behavior.[97] Law and disorder reveal media performance,[98] failures of electricity force use of transistor radios and sex as a substitute for television (according to birth records nine months later), and the ham and CB radio is re-discovered in a truckers strike on the expressway.

Big snowstorms re-establish personal communication in big cities, and actual (and expected) earthquakes expose and lay bare community inter-dependence, especially communications networks and behavior. Carless days in Frankfurt, Germany during the Arab oil embargo gave researchers a chance to learn how much pollution came from autos. DWI and accident reports reveal social behavior patterns and at the very point of disaster, audio and video tapes record the oral history of Watergate, the sounds of death at Jonestown, the shots in Dealey Plaza, the voices of crashing pilots and crushing suicides, and after it's all over, there are video-taped wills and tombstones!

Then comes the research methodology of genealogy, a creative replication of fiction and myth and enough social realism to persuade historian Jack Kirby to say that Alex Haley in Roots "invented feelings, thoughts, conversations and incidents which no empiricist could discover".[99] Such reflections on the dead reveals race relations as vividly as court records on death sentences and abolitioist newspapers.

The past is also recreated, resurrected and re-assembled in the television docu-drama and psycho-biography, which give current news and history more truth and meaning. Researchers also go back and relive the past of the Stone Age, Colonial Period, or the Great Depression

in order to replicate the interaction and communication context of the times. Another post-mortem study instrument is the study commission created usually shortly before, during or after social breakdown in the wake of frustrations by minorities and other "prisoners" whose feedback and back-talk may be hindered before the arrival of ombudsmen, press and grievance councils, press and police reviews. Media problems have been anticipated and assessed in the Hutchins, Carnegie and Mac Bride Commissions. Surgeon General's Commissions on violence and social behavior, pornography and smoking have dealt with media. After the 1919 Chicago race riots, the Chicago Commission on Race Relations introduced social science research techniques to study such social problems.

In the 1960s and into 1970, the Warren, Kerner, Walker Commissions and a study commission on Kent State delved into the role of communications media during violence and unrest. Researchers were reminded by journalist Tom Wicker in his Kerner Report introduction that "There are novels here, hidden in the Commission's understated prose; there are a thousand doctoral theses germinating in its statistics, its interviews, its anecdotes and profiles." Scholars also have suggested the federal commission as a research device.[100]

Since burial follows demise, researchers might be reminded that with modern paper shredders, skilled public relations, and subpoenaed reporters' notes, it may be necessary for media content analysts to bow to "truth in trash" and the "garbology" advocated by anthropologist William Rathje.[101] He has found that the voluminous refuse in a waste-oriented society provides an archeology of unobtrusive sampling of discarded material which can reveal readership of books, newspapers and magazines, use of TV-advertised brand name products, and behavior on diets and in the natural environment. Rathje notes that "So much of

our culture is being demolished so fast that we have to start digging before it's too late." Razed old buildings and crushed dumps affect stratification layers so that "Future generations will have no useful ruins to study."[102]

The space and nuclear eras create new archeological dilemmas. Tape erasures and electronic signals are hard to trace. The geology after atomic blasts poses still another problem. The Ephemera Society is concerned about the loss of debris, dross, dregs and ephemeral archeology. It has its own journal, and collects both printed and handwritten junk: bills, greeting cards, ticket stubs, product labels, receipts, vouchers, menus, parking tickets, tour guides, posters, certificates, and other graphic art and design.[103] Such leavings may balance the picture of society presented in the press of the day.

Litter reveals reading, social and travel habits. Credit cards, bank checks, and photo-graphic calling cards register life styles. Library cards show reading habits and preferences. Classified ads, action line questions and press corrections provide clues to audience concerns. Even hoaxes hint at levels of public ignorance and gullibility. Oil spill "finger painting" is being used to locate polluters who may evade investigative reporters. Minorities ignored by the press and by history may find that trunk souvenirs in a Topeka trunk in 1975 gave new glimpses of women on the frontier in 1854-1885; and trash in Philadelphia in 1978 provided new insight on Black leader Marcus Garvey of the 1920s. Even pack rat nests in the Southwestern deserts have told of the past 30,000 years of biology and more recent human history.

Such compact containments may seem odd, unusual, trivial and bizarre things to study, but one strategy to discover new theory is to "study the unstudied".[104] Sophisticated press agentry and calculated

public images may obscure the meaning of odds and ends in cornerstone time capsules and the essential janitorial routines and residues of the community. Even business history is being written from wastebaskets including annual reports, ledgers, legal briefs, architectural blueprints, photos, films, slides, tax statements and assorted attic junk.[105] And the privies of ghost towns are being examined as sealed archeological time capsules unmasking food and drink preferences via seeds and bones, and sex and social habits via hygienic and pipe paraphernalia for prostitution and drugs not always reported in the press of the day. Other hidden artifacts like sunken ship treasure unfolds messages through coins, weapons, buckles, pewter and cutlery long before modern mass media recorded its history.

Traditional archeology has emphasized the single artifact to detect the symbolic storage and transmission of information, culture and ideas. Flinders Petrie, Egyptologist and cyclical historian, studied sculpture as the most lasting, objective evidence of the birth and death[106] of civilizations. However, the new archeology tends to be more interdisciplinary, and more than digging up bones and vases for museums. It joins specialists from geology, engineering, history and paleontology with statistics, computers and social-psychological theories to deduce past human behavior. The common denominator from an excavation may be a community and communications component.

In that respect, there are some community studies today which might be termed "archeology above ground". Isolated geographic and social hamlets never exposed to electricity or to television are ready-made labs. States like Utah with large Mormon populations have been called the "sober environment" to study for cancer incidence because of lower rates of the disease and/less consumption of liquor and tobacco. The Amish,

Mennonite and Hutterite communities with close family ties, family trees and distinct diet traditions are others. And in England's village of Luddenden, the old practice of eating roast beef and Yorkshire pudding was given up for soya bean protein "for a week under the nation-wide scrutiny of TV cameras" in a study by the goverment.[107]

Communications study is probably desirable while a community is still above ground, but one pseudo-scientific method being used is the clairvoyance of "psychic archeology" by ghost town historians employing psychics to examine, date, and interpret archeological remains, and to predict their locations, dimensions, and the images of situations in which objects were used. Skeptical scholars who want to assure future media archeology might prefer to use pens and pencils and typewriters rather than ephemeral tapes and VDTs, and bury their microfilmed notes rather than burn them. As for the dead talking back to any Gallup pollsters, that might be the ultimate in communications feedback.

Science Fiction as a Social Science of the Future

Another unconventional, odd and unusual context for media research is that of science fiction--a peculiar, unfamiliar and un-nerving idea to pose in a social science framework. It speaks to the future beyond history and archeology. Reference to it runs a risk of being called pseudo-science in the same category as using catfish and cock roaches to predict earthquakes.

However, it is a media technique. It is created by journalists. It is like history and personal participation extended in a frequently critical manner, and it often deals with communications--especially the new communications technology of the emerging future. It abandons caution and embraces imagination, and moves beyond both reporting and

the non-fiction novel to the fiction of the future. It is anticipatory as it attempts to explain change to a general public overloaded with information.

Its closest tie to scholarship is that of futurists and futurologists, who are also involved in forecasting methodologies.[108] Science fiction has been used to teach some concepts in astrophysics.[109] It is also seen as a means to blend perspectives from sociology, philosophy, history and psychology,[110] and science fiction writer Isaac Asimov sees science fiction (SF) as a recruiting ground for scientists and scientific concepts.[111] He says "science fiction has become more sophisticated because other branches of fiction have withered and deteriorated."[112]

The method of science fiction, as described by Asimov, involves what he calls "Three Laws of Futurics": (1) What has happened in the past will continue to happen in the future; (2) Consider the obvious seriously, for few people will see it; and (3) Show the ridiculous, but logical (and satirical) consequences that could be brought on by continuing present trends.[113]

Relative to previously mentioned methods, SF has elements of historical research in its tone that we do not learn from history, and the more things change,the more they remain the same. Projection of the communicator into the act of communication is the ultimate in creative participant-observation. Its critical and qualitative evaluations deal often with the impact and consequences of media and society. It deals wholistically with past, present and future, and it brings media technique and content together. As the other side of the archeology coin, it moves beyond the disasters of the past to new dangers: doomsday, World War III, new Ice and Heat Ages, wars among new worlds.

Like some futurologists, many SF writers deal optimistically with

positive impact by the new communications technology and the post-industrial information society of the computer, cable and telephone. The new utopia is a form of videology.[114] Technotopia and computopia and other scenarios are common projections as SF and other futurists predict tomorrow. Sociologist John McHale incorporates communications into his predictions of The Future of the Future, and journalist Brenda Maddox sees new telecommunications as human liberation Beyond Babel.

Media technology becomes a promising method of social engineering which will solve old city problems and create new cities to which one can escape.[115] Science fiction writers looking at urban life through science fiction project both a romantic and apocalyptic visions of liberation from the obsolete central place of central cities, which "can be replaced by wires and microwave relays".[116] Mathematician Roberto Vacca sees the breakdown of communications as part of The Coming Dark Age. An architectural journalist,Martin Pawley,criticizes The Private Future where the abuse of media technology leads to it replacing the community in which citizens escape contact with others and public responsibility declines in the collapse of Western civilization.

Media in many ways are central to science fiction. There are not only new magazines such as Next, Omni and The Future, but the media-centric trend is shown in one SF novel in which Algis Budrys makes a heroic television newsman (Michaelmas) and his companion computer Domino rule the world with electronic circuits of the new communications technology. The media are the center of much of the writing by popular journalist and pop sociologist Alvin Toffler, whose Future Shock evaluated the impact of change, communications overload and stress; and whose Third Wave suggests that communications technology is one of the most significant developments in human history, behind agriculture and industrialization.

Toffler's research method is a combination of meta-research, standard reporting and futurism. He coined the term Future Shock in a 1965 Horizon magazine article by suggesting that too much change in too short a time will cause human stress and disorientation. He describes his method:[117]

> "Fascinated by this concept, I spent the next five years visiting scores of universities, research centers, laboratories, and government agencies, reading countless articles and scientific papers and interviewing literally hundreds of experts on different aspects of change, coping behavior, and the future. Nobel prizewinners, hippies, psychiatrists, physicians, businessmen, professional futurists, philosophers, and educators gave voice to their concern over change, their anxieties about adaptation, their fears about the future."

Toffler's eclectic and interdisciplinary approach was noted by a reviewer in the Manchester Guardian as "a spetacular outcrop of a formidable, organized intellectual effort". "For the first time in history, scientists are marrying the insights of artists, poets, dramatists, and novelists to statistical analysis and operational research. The two cultures have met and are being merged. Alvin Toffler is one of the first exhilirating, liberating results."[118]

He is not without his critics. Stephen Rosen, a management consultant, examined data on incubation intervals for innovations (many in communications) and found that it takes longer to move from conception to realization today than it did years ago. "Future shock," he says "is a myth. Future shock is the false journalistic premise that the pace of change has accelerated, discomforting everyone."[119] Toffler says that his work is like that of ancient mapmakers who were inaccurate but who charted the earth. "Theories", Toffler says,"do not have to be 'right' to be enormously useful. Even error has its uses."[120]

One communications scholar has called the mythos of the electronic revolution a kind of magic, secular theology through which electrical

energy will return the human community to naturalistic bliss.[121] Another criticism is that technology and science fiction are mystifying non-subjects--an addiction like hypoglycemia--which obfuscates, confuses, and substitutes for political reality. This analogy argues that media heroes in "Star Trek" and "Star Wars",helping earth's aliens caught between past and future, merely cure future shock with more and not less technology.[122] Toffler's prescription for much of future shock is consumer use of the new communications technology in The Third Wave.

Defenders of the SF techniques point to their power to predict better than some social science. They cite the Buck Rogers comics, magazines which forecast atomic bombs and oil shortages, the prophetic metaphor of George Orwell's 1984 and Aldous Huxley's Brave New World, and the prediction of photography 80 years in advance by a French science fiction novel.[123] More recently, they point to the fact that the Three Mile Nuclear crisis occurred a few days after the premier of the 1979 movie"The China Syndrome", which starred Jane Fonda as a newscaster trying to get a story on a possible nuclear accident in a similar fictional plant in California.

The blending of fiction and fact in this instance,[124] was called by one professor of literature an argument that "fiction may be the predecessor to fact."[125] Coincidentally (?), in 1978, a Harrisburg, Pa., magazine published a fictional article on a nuclear disaster at nearby Three Mile Island. It described mass evacuation confusion and public health problems from radiation. The fictional story said radiation problems first occurred at the plant on a March 28. The real accident and first radiation problems occurred on . . . .March 28, 1979.[126]

Summary:

1.) The rise in receptivity to qualitative and non-quantitative research methods has taken place in the atmosphere of unresolved, external public issues unsolved by traditional social science approaches, and internal academic respectability gained by re-discovered and new descriptive research alternatives which have carved out a new area.

2.) The mood of co-existence in different research camps is aided by the eclectic scope of qualitative studies and renewed interest in communication by sociologists whose multiple approaches have combined the qualitative and quantitative tools, especially participant-observation with survey research.

3.) The older established descriptive research method of history in journalism and communications research now has a spirit of detente in an era of good feeling and parity with humanism and meta-research.

4.) Sociologists have penetrated media institutions to provide a wholistic view missing from much communications research tied to objective survey research approaches and a possibly detached perspective on media in society.

5.) Media sociology has been more critical of media performance than journalism educators, who have been tied to professional media as a major client outside the academic world.

6.) Political scientists and journalists together have developed the agenda-setting and actor role of media as research frameworks. Other interdisciplinary contexts include those of philosophy, religion and the law, and economic interpretations long used to explain mass media.

7.) Participant-observer techniques have been used by journalists to both gather information and to explain media functions. The varieties of journalistic practice created can be studied as research methods, including investigative reporting as social science.

8.) Media are methods of research, including photography, audio-visual tapes, movies, television, and novels, especially non-fiction types.

9.) Criticism and critical analysis of media continues, but still subject to criticism as it seeks to develop a more precise and distinct methodology.

10.) Media archeology offers an unorthodox approach and unobtrusive method to trace the role of media in society through photography, the metaphor of death and autopsy, accident research, numerous natural and social breakdowns assessed in study commissions, and through "garbology" and the un-planned historical experiments of the ghost towns and remnants of social containment.

11.) Science fiction is examined as a journalistic and scholarly technique because of its futuristic blend with projections on the impact of new communications technology beyond the present, and because of its eclectic combination of several disciplines, a high level of involvement by its creators, and its critical and evaluative outlook on media.

REFERENCES:

1. Jacques Barzun, "The Cults of 'Research' and 'Creativity'", Harper's, (October 1960), p. 71.
2. Stanislov Andreski, Social Sciences as Sorcery,(New York:St. Martin's), 1972.
3. Theodore J. Gordon, "Bucking The Scientific Establishment", Playboy,
4. Scott Greer, The Logic of Social Inquiry,(Chicago:Aldine). pp 127-134.
5. Gene Burd, "Qualitative Approaches as a Social Science Method in Communications Media Research", Paper for Western Social Science Association, Tempe, Arizona, May 1, 1976.
6. Lynn Ashby, "J-Schools Not an Ivory Tower", Houston Post, February 17, 1977.
7. Jay G. Blumler, "Purposes of Mass Communications Research: A Transatlantic Perspective", Journalism Quarterly, 55:2 (Summer 1978),p.229.
8. Curtis MacDougall, Interpretative Reporting, (New York:Macmillan)1982.
9. Bradley Greenberg, "Ethical Issues in Communications Research", in Research Methods in Mass Communication, Guido Stempel III and Bruce Westley (Eds.),(Englewood Cliffs,N.J.:Prentice Hall), 1981,p 277.
10. Donald Warwick, "Social Scientists Ought to Stop Lying", Psychology Today, (February 1975), p 38+.
11. William Barrett, The Illusion of Technique, (Garden City:Anchor/ Doubleday), 1978.
12. Arthur Koestler, "The Eureka Process", Horizon, 6:4 (Autumn 1964)16-25; John A. Prestbo, "Sheer Luck Sometimes is Largely Responsible for Major Inventions", Wall Street Journal, July 18, 1968, p.1+;Sir Bernard Lovell, "Serendipity in Science", Intellectual Digest 3:11 (July 1973),p.32, reprinted from Times Educational Supplement, London, December 12, 1972.
13. Greer, loc. cit., p.viii.
14. Maxwell E. McCombs,"J-Researchers Appraised--Too Many 'Whack' at Problems, Fail to Think Creatively", Journalism Educator, 29:1 (April 1974) p. 3.
15. Jim Weber, "Community Power Study Methodologies-A Critique", Department of Urban Studies, Loyola University-Chicago, May 9, 1968, p. 9.
16. Melville Dalton, "Preconceptions and Methods in Men Who Manage", in Sociologists at Work, Phillip E. Hammond, ed.,(New York: Basic Books),1964, pp 50-95.
17. P.W. Bridgman, "New Vistas for Intelligence" in Physical Science and Human Values, E.P. Wigner, ed., (Princeton,N.J:Princeton),1947, 144-45.
18. P.B. Medawar, "Is The Scientific Paper Fraudulent ?", Journal of Human Relations, Vol. 13, 1965, p 1-16(Reprinted from Saturday Review, August 1, 1964.).
19. Anthony Oberschall, "The Institutionalization of American Sociology", in The Establishment of Empirical Sociology by Oberschall(ed),(New York: Harper & Row), 1972, 189-244.
20. William R. Lindley,"Ralph Casey--Journalist, Educator, Social Scientist", Journalism Educator 33:3 (October 1978), 20-24+.
21. Clifford Christians, "Origins, History of Division Recalled by QS Head: Growth, Strength and Maturity in Four Areas Provide Future Focus", Qualitative Studies Newsletter, 7:2 (Winter 1981), p 8.
22. Clifford Christians and James W. Carey, "The Logic and Aims of Qualitative Research", pp 342-362; in Stempel and Westley.
23. Clifford Christians and Robert S. Fortner, "Separating Wheat From Chaff in Qualitative Studies", pp 363-374 in Stempel and Westley.
24. Ibid.
25. A.S. de Beer, "Qualitative Research in Journalism--Friend or Foe ?", Communicare 1:1 (1980) 10-23.

26. H.C. Marais, Kommunikasiekunde:'n Navorsingsperspektief. Inaugural Address, University of the Orange Free State, 1980.
27. Ralph O. Nafziger and David M. White, Introduction to Mass Communications Research, (Baton Rouge: Louisiana State), 1972.
28. Ibid. p. 240 (Bruce H. Westley)
29. Ibid. p. 162 (John E. Alman and David M. White)
30. Ibid. p. 171
31. Ibid. p. 39 (Malcolm S. MacLean Jr.)
32. C. Charles Whitney and Steve M. Barkin,"Phenomenology and Mass Communication Research: An Uncertain Past and A Promising Future", Foundations for Communication Studies , John Soloski, ed., University of Iowa, 1981, pp 83-95;John Stewart, "Philosophy of Qualitative Inquiry: Hermeneutic Phenomenology and Communication Research", Book Review in The Quarterly Journal of Speech 67 (1981), 109-124.
33. Aspen Program on Communication & Society, "The Humanistic Claim on the Cable", by Richard Adler, The Electronic Box Office:Humanities and Arts on the Cable, (New York: Praeger), 1974;M.C. Kolbenschlag, "The Evening News: Qualitative Assessment and Systematic Analysis", Paper for Association for Education in Journalism, College Park, Md., July 31-August 4, 1976; Carol A.V. Keegan, "Qualitative Audience Research in Public Television", Journal of Communication 3:3 (Summer 1980);Paul Hirsch/Jim Carey, "Communication and Culture: Humanistic Models in Research",Communication Research, Special Issue (June-July 1978); P.G. Holmlov, "Struggles Over Garbage:A Qualitative Approach to the Study of News Reporting on Municipal Government", Gazette, 1978, pp 161-172.
34. International Communication Association, Mass Communications Division Newsletter, Editorial, 1:2 (March 1979), p. 1.
35. Alfred G. Smith, "Content Decisions in Intercultural Communication", Southern Speech Communication Journal, 47:3 (Spring 1982) 252-262.
36. Vermont Royster, "Thinking Things Over", Wall Street Journal, April 25, 1979, p. 22.
37. Angelo B. Giamatti, "Back to the Humanities", St. Louis Post-Dispatch, April 12, 1979, p. 2B.
38. Northwestern Alumni News, "Medical Admissions Aods Humanities", 10:4, (January 1982), p. 1.
39. James W. Daniel, "Scholarship Requires Duplicity of Thought", Daily Texan, University of Texas, May 7, 1981, p. 4.
40. William F. Whyte, "Research Methods for the Study of Conflict and Cooperation", The American Sociologist, 11:4 (November 1976), 208-216.
41. Jacques Barzun and Henry Graff, The Modern Researcher, (New York: Harcourt Brace Jovanovich), 1977, 3rd Edition, Preface, p.x.
42. Philip Meyer, Precision Journalism-A Reporter's Introduction to Social Science Methods, (Bloomington:Indiana), 1973; Maxwell McCombs et.al., Handbook of Reporting Methods, (Houghton Mifflin:Boston), 1976.
43. Rilla Dean Mills, "Qualitative Studies: Historiographical Antecedents", Paper for Association for Education in Journalism, East Lansing, Michigan, August 1981.
44. David Paul Nord and Harold Nelson, "The Logic of Historical Research" in Stempel and Westley, pp 278-304.
45. Ibid., p. 299.
46. James Carey, "The Problem of Journalism History", Journalism History, 1:1 (Spring 1974) 3-5; Cathy Covert, "The Newspaper and Intellectual History: A New Approach", Paper for Association for Education in Journalism, Houston, Texas, August 1979.
47. J. Herbert Altschull, "Journalism History: Mediocentric or .....?", MassCommReview, 5:1 (Winter 1978), 2-8.

48. MaryAnn Yodelis Smith, "The Method of History", in Stempel and Westley, pp 305-317.
49. Everett M. Rogers, "Importance of Meta-Research", Newsletter for International Communication Association,9:3 (Summer 1981).
50. Nafziger, loc. cit., p. 17.
51. McCombs, Handbook...p. 17.
52. John W.C. Johnstone, Edward J. Slawski and William W. Bowman, The News People:A Sociological Portrait of American Journalists and Their Work, (Urbana: Illinois), 1976.
53. Phil Freshman,(Within the Context of No Context,by George W.S.Trow) reviewed in Los Angeles Times, Part v:26, November 27, 1981, under "Exploring Cultural Disconnectedness".
54. Hanno Hardt, "Communication as Theory and Method of Community", Communication, Vol. 2 (1975), pp 81-92.
55. Jack Kirby, Media-Made Dixie,(Baton Rouge:Louisiana State), 1978; Jeremy Tunstall and Walker, Media-Made California, 1981.
56. Kevin Phillips, Mediacracy-American Political Parties in the Communications Age, (New York: Doubleday), 1975.
57. Seymour Mandelbaum, Community and Communications, (New York: W.W. Norton), 1972.
58. Daniel Lerner, "Summary and Conclusions", in Behavioral Sciences and The Mass Media, Frederick T.C. Yu, ed., (New York:Russell Sage),1968.
59. Gene Burd, "The Qualitative Legacy of Participant-Observer Approaches Among Sociologists and Journalists", Paper for Association for Education in Journalism, East Lansing, Michigan, August 1981.
60. Alfred McClung Lee, Sociology for Whom ?, (New York:Oxford Press), 1978, pp 70,83.
61. Elihu Katz, "Get Out of the Car:A Case Study on the Organization of Policy Research", Gazette, 25:2 (1979), 75-86.
62. Warren Breed, "Social Control in the Newsroom", Social Forces, May 1975.
63. Morris Janowitz, The Community Press in an Urban Setting,(Chicago: University of Chicago), 1952, 1967.
64. E. Barbara Phillips,"Approaches to Objectivity: Journalistic Versus Social Science Perspectives", Strategies for Communications Research, Paul M. Hirsch et al (eds.),(Beverly Hills:Sage),1977, Vol.6, pp 63-77.
65. Paul Weaver, Unpublished Ph.D. Dissertation, Harvard University, "The Metropolitan Newspaper as a Political Institution: An Organizational Analysis of the New York Press", 1967.
66. Todd Gitlin, The Whole World is Watching:Mass Media in the Making and Un-Making of the New Left, (Berkeley: California), 1980, 303-304.
67. Bernard Cohen, The Press and Foreign Policy, (Princeton:Princeton), 1963, p. 3.
68. Gene Burd,"Health and Medical Information as a System of Preventive Journalism", Paper for International Communication Association, Minneapolis, Minn., May 21-25, 1981.
69. Everette Dennis, The Media Society,(Dubuque:William Brown),1978,146-47.
70. Richard Zoglin, "It Takes Know-How to Sell a TV Show", Cox News Service, Austin American-Statesman, February 27, 1980, p E4.
71. Curtis MacDougall, Reporters Report Reporters,(Ames:Iowa State) 1968.
72. Carl Bernstein and Bob Woodward, All The President's Men (New York: Warner Paperback), 1975; George Lockwood,"The Ugly Story of Pollution--How It Was told", Quill (July 1967), 20-23.
73. Murray Levine, "Investigative Reporting as a Research Method", American Psychologist, 35:7 (July 1980), 628-638.

74. R.S. Goodman and Calvin Pryluck, "The Tape Recorded Interview as Data for Film History", Speech Monographs, 39:4 (November 1972),306-311.
75. Jack Gladden, "Movies and Reality", Journalism Educator 36:3,(October 1981), 53-55.
76. Thomas Elliott Berry, The Newspaper in the American Novel 1900-1969, (Metuchen,N.J.:Scarecrow), 1970.
77. John Hollowell, Fact and Fiction--The New Journalism and the Non-Fiction Novel, (Chapel Hill:North Carolina), 1977, p. x.
78. Ibid., p. xi.
79. Michiko Kakutani,"Do Facts and Fiction Mix ?", New York Times Book Review, January 27, 1980, pp 1-3,28.
80. Ordean G. Ness,"Contributions of Historical and Critical Studies to Communication Research", Journal of Communication, (September 1962), 160-165.
81. William Rivers and David Rubin, A Region's Press:Anatomy of Newspapers in the San Francisco Bay Area, (Berkeley:California), 1971.
82. Paul Lazarsfeld,"Remarks on Administrative and Critical Communications Research", Studies in the Philosophy of Social Science, (1941) 9:1, 2-16. Curtis MacDougall, "Journalistic Performance CAN be Analyzed Critically", Northwestern University, Typewritten, 10 pages, circa 1961; T.H. Martin, "A Proposed Ideology and Methodology for the Critical Information Scientist", Ph.D. Dissertation, Stanford University, 1974; James W. Carey, "Journalism Schools Must Contribute to the Development of a Systematic Evaluation and Public Criticism of the Newspaper Press", Paper presented to "Conference on Education for Newspaper Journalists in the Seventies and Beyond", October 31-November 2, 1973, Reston, Va.
83. Herbert Strentz, Kenneth Starck, David L. Anderson and Loren Ghiglione, "The Critical Factor:Criticism of the News Media in Journalism Education", Journalism Monographs, February 1974.
84. Robert Louis Stevenson,"A Critical Look at Critical Analysis", Paper for Association for Education in Journalism, East Lansing, Michigan, August 1981.
85. Ibid., p. 27.
86. Gene Burd, "Toward an Archeology of the Media", Qualitative Studies Newsletter, 8:2 (Winter 1981-82).
87. William L. Rathje,"Trace Measures", New Directions for Methodology of Behavioral Science, Unobtrusive Measurement Today, 1:1 (1979),75-91; See also Eugene J. Webb et al, Nonreactive Measures in the Social Sciences, (Boston:Houghton Mifflin), 1981, Second Edition.
88. Gene Burd, "An 'Autopsy' Approach to Frontier Press History: The Ghost Town Newspaper", Paper for(History Division)Association for Education in Journalism, Boston, Mass., August 1980.
89. Van Zuilen, A.J. The Life Cycle of Magazines, (Uithoorn, Netherlands: Graduate Press), 1977.
90. IPS,Television Today:The End of Communication and the Death of Community,(Washington D.C.:Institute for Policy Studies).
91. Robert J. Morton, "The Making of a New Metropolitan Daily in New York: The News World", Master's Degree thesis, University of Texas-Austin, 1977.
92. Jane Holtz Kay,"Paris Magnifique,Marville and Atget--Saving a Lost Architecture on Film", Christian Science Monitor, October 16, 1981,p 15.
93. Karin Becker Ohrn,"What You See in What You Get:Dorothea Lange and Ansel Adams at Manzanar", Journalism History, 4:1 (Spring 1977) 14-22.
94. Harvey Molotch,"Oil in Santa Barbara and Power in America", Sociological Inquiry, 40:1 (Winter 1970), p 143("The Accident as a Research Methodology"); Also Harvey Mototch and M. Lester,"News as Purpose Behavior on

the Strategic Use of Routine Events, Accidents and Scandals", American Sociological Review, Vol. 39 (February 1974), 101-112.
95. Terry Buss and C. Richard Hofstetter,"Communication, Information and Participation During an Emerging Crisis", Social Science Journal, 18:1, (January 1981), 81-91.
96. Don D. Smith, "Disaster Policy Assumptions About Mass Media Effectiveness in Pre-Disaster Evacuations", Paper for Association for Education in Journalism, East Lansing, Michigan, August 1981; James Harless and Galen Rarick,"The Radio Station and the Natural Disaster", Paper for Association for Education in Journalism, Ottawa, Canada, August 1975; the National Academy of Sciences, Disasters and The Mass Media, 1979 Conference of Committee on Disasters and the Mass Media,(Washington D.C.,1980).
97. Harold de Bock, "Gratification Frustration During a Newspaper Strike and a TV Blackout", Journalism Quarterly, 57:1 (Spring 1980), 61-66+.
98. V.M. Mishra, Law and Disorder, (New York:Asia), 1979.
99. Jack Kirby, Media-Made Dixie (Baton Rouge : Louisiana State), 1978, p. 169.
100. Peter Clarke, "The Federal Commission as a Research Device", Paper for Association for Education in Journalism, Berkeley, California, August 27, 1969.
101. Rathje, loc.cit.
102. New York Times, March 6, 1976, p. 12L,"Sifting Through Garbage For Clues on American Life"; Chicago Tribune Service, "'Garbaeology' Fans Call it a Form of Archseology",Austin American-Statesman, April 19, 1981,p E2; Christian Williams,"The Truth in Trash", Washington Post, November 11, 1981, p. E1.
103. George Esper, Associated Press, "Wastebasket Archaeology", Louisville Courier-Journal, October 30, 1977, p. G7.
104. Anselm L. Strauss, "Strategies for Discovering Urban Theory", in Urban Research and Policy Planning, Leo F. Schnore and Henry Fagin, Urban Affairs Annual Reviews, Vol.1, 1967,(Beverly Hills:Sage),p.82-83.
105. Nancy Goebel,"Saving Business History From the Jaws of the Wastepaper Basket", Dallas, 59:9,(September 1980),57-59.
106. Dead civilizations do not "talk back", but the Metascience Foundation indicates it has developed an instrument called Spiricom which uses electronic communication and psychic energies to allow the living to see and speak to the dead.("'Spiricom' Introduced",Daily Texan, April 7, 1982, p. 3.)
107. Michael Cope, "British Town to Eschew Meat", Milwaukee Journal, September 3, 1975, p.5.
108. "The Study of SF as a Forecasting Methodology", Challenges from the Future: Proceedings of the International Future Research Conference, (ed), Japan Society of Futurology, (Tokyo:Kodansha), 1970,4 vols.,71-79.
109. Steven T. Levine, "UT Writers Mix Work With Science Fiction", Daily Texan, November 11, 1981, p. 4.
110. Ray Bradbury, "Day After Tomorrow: Why Science Fiction ?", Nation, (May 2, 1953), 364-367.
111. Isaac Asimov,"Science Fiction, An Aid to Science, Foresees the Future", Smithsonian,(May 1970), 41-47.
112. Edmund Fuller, "Isaac Asimov Talks About Sci-Fi and Reality", Wall Street Journal, March 30, 1979, p. 15; Kathy Sawyer,"Asimov Says 21st Century Could Be an Age of Creativity", Washington Post, April 4, 1979, p. A3.
113. Isaac Asimov, "Oh, Keen-Eyes Peerer Into The Future", Science Section, Fantasy and Science Fiction (October 1974), Vol. 47, pp 175-185.
114. Alfred Willener, Guy Millard and Alex Ganty, Videology and Utopia: Explorations in a New Medium (London:Routledge and Paul Kegan)1976.

115. Gene Burd, "New Communications Technology For Old City Problems and New City Prospects", Paper for Conference on Impact of the New Communications Technology, Mass Communications & Society Division of Association for Education in Journalism, Atlanta, Georgia, February 26-28, 1982.
116. Ralph Clem, Martin Harry Greenberg and Joseph Olander (eds.), The City:2000 AD--Urban Life Through Science Fiction, (Greenwich:Fawcett), 1976; and Roger Elwood, Future City (New York:Pocket Books), 1973.
117. Alvin Toffler, Future Shock, (New York:Bantam Books), 1970, p. 2.
118. Ibid., (p.2, Flyleaf).
119. Stephen Rosen, "Wherein Future Shock is Disputed", New York Times, June 18, 1976, Op Ed Page. See also "The Circus and Future Shock", The Futurist (October 1977).
120. Toffler, loc. cit., p. 6.
121. James W. Carey and John Quirk, "The Mythos of the Electronic Revolution", American Scholar, 39:2 (Spring 1970), 221-222.
122. Joanna Russ, "SF and Technology as Mystification", Science-Fiction Studies, Vol. 5, 1978, pp 250-259; Jacqueline Lichtenberg, Sondra Marshak and Joan Winston, Star Trek Lives, (New York: Bantam Books), 1975, pp 90-97.
123. Charles Francois Tiphaigne de la Roche, "Photography Predicted", in Photography:Essays and Images, (New York:Beaumont Newhall), 1980., pp. 13-14.
124. David Sterritt, "Fact and Fiction Can Come Harrowingly Close", Christian Science Monitor, April 5, 1979, p. 18.
125. Mark Toohey, "Science Fiction and the Reality of Today", Houston Chronicle, November 8, 1979, Section 3, Page 5.
126. Ward Sinclair, "Fictional Article on Disaster Almost Cost Magazine's Grant", Washington Post, April 4, 1979, p. A17.